

2018 Missouri Wild Turkey Brood Survey Results

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The Missouri Department of Conservation (MDC) has conducted a wild turkey brood survey annually since 1959. During the survey, MDC staff and citizen volunteers record turkey observations during June, July, and August to determine the success of the hatch. Data are collected at the county level and reported statewide and by Turkey Productivity Region, which are counties grouped by similar land cover composition (Figure 1). Each year, hundreds of staff and thousands of citizens participate in the survey and we are grateful for their contribution. I would also like to thank those staff involved with distributing survey cards and entering the thousands of turkey observations obtained during the survey. The turkey brood survey provides important information for the Conservation Department's Wild Turkey Management Program, and the large dataset we have obtained since the survey was initiated would not have been possible without the dedication of staff and our citizen volunteers.

In 2018, over 84,000 turkeys were reported during the brood survey. This year's statewide poult-to-hen ratio (PHR) was 0.9, which was 13% higher than the 2017 ratio and 25% less than the previous five-year average (Figure 1, Table 1). This year's PHR was 31% less than the 10-year average and 40% less than the 20-year average (Table 1). Poult-to-hen ratios this year ranged from 0.7 in the Ozarks West to 1.4 in the Northwest (Figure 1, Table 1). Compared to the five-year averages, PHRs in 2018 were higher in the Lindley Breaks, similar in the Mississippi Lowlands, Northeast, and Northwest, and lower in the Ozark Border, Ozarks East, Ozarks West, Union Breaks, and West Prairie (Figure 1, Table 1).

During this year's survey, 36% of hens were observed with a brood, which was up from 27% in 2017 and the same as the five-year average. Regionally, the percentage of hens observed with a brood ranged from 25% in the Ozarks West to 46% in the Northwest (Table 2). For hens that were observed with a brood, the statewide average brood size was 3.8, which was up from 3.5 in 2017 and 3% less than the five-year average. The average brood size ranged from 3.4 in the West Prairie to 4.2 in the Lindley Breaks (Table 2).

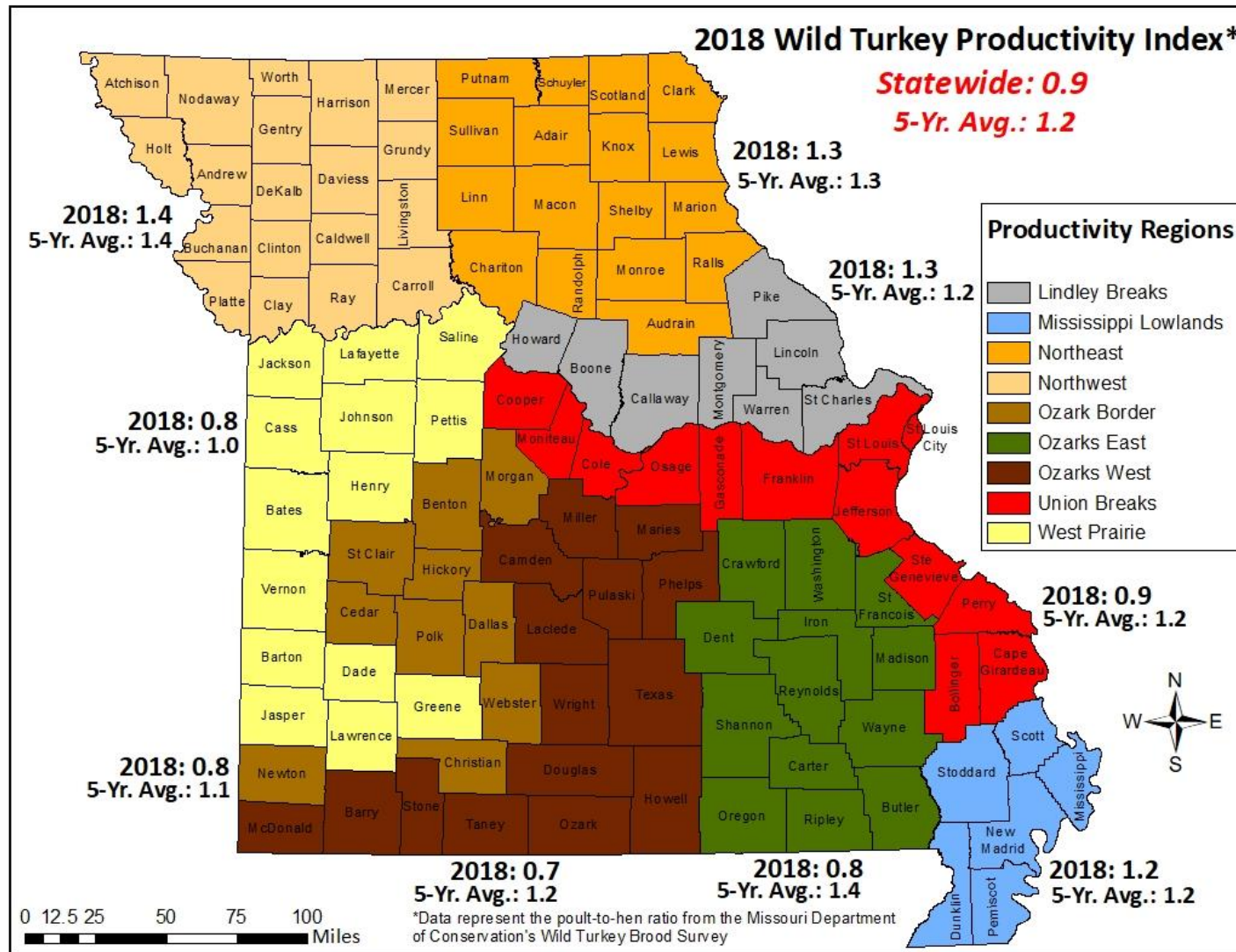


Figure 1. Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region. Data were obtained during the Conservation Department's 2018 Wild Turkey Brood Survey and are compared to the previous five-year averages.

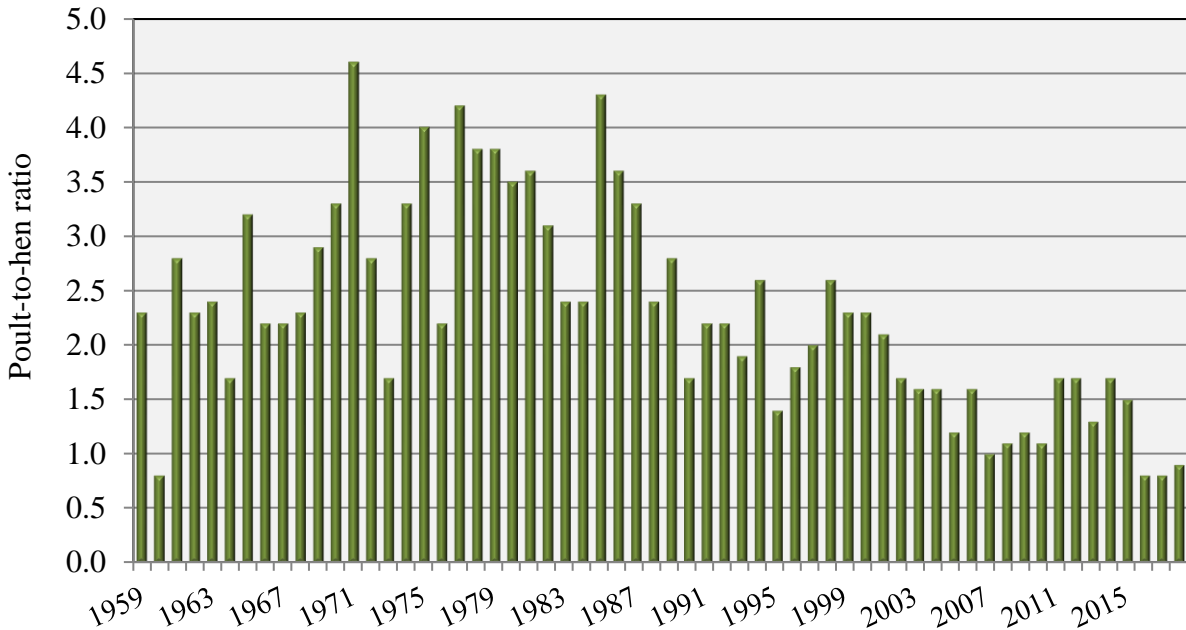


Figure 2. Statewide wild turkey productivity index (poult-to-hen ratio) in Missouri based on observations during the Conservation Department’s Wild Turkey Brood Survey, 1959–2018.

Table 1. Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region (Figure 1). Data were obtained during the Conservation Department’s Wild Turkey Brood Survey in 2018 and are compared to the previous year and the average for periodic intervals.

Productivity Region	2018 Index	1-year (2017) Change	5-year (2013–2017) Change	10-year (2008–2017) Change	20-year (1998–2017) Change
Lindley Breaks	1.3	+63%	+8%	-7%	-24%
Mississippi Lowlands	1.2	No change	No change	-20%	-45%
Northeast	1.3	+18%	No change	No change	-13%
Northwest	1.4	+8%	No change	+8%	-13%
Ozark Border	0.8	+14%	-27%	-33%	-47%
Ozarks East	0.8	No change	-43%	-50%	-56%
Ozarks West	0.7	+17%	-42%	-42%	-53%
Union Breaks	0.9	No change	-25%	-31%	-40%
West Prairie	0.8	+33%	-20%	-27%	-43%
Statewide	0.9	+13%	-25%	-31%	-40%

Table 2. Data obtained during the Missouri Department of Conservation's Wild Turkey Brood Survey, listed by Turkey Productivity Region (Figure 1), 2018.

Productivity Region	% Hens w/ Brood	Average Brood Size	Poult-to-Hen Ratio	Gobbler-to-Hen Ratio
Lindley Breaks	42%	4.2	1.3	0.47
Mississippi Lowlands	41%	3.9	1.2	0.54
Northeast	43%	3.9	1.3	0.59
Northwest	46%	4.0	1.4	0.64
Ozark Border	36%	3.5	0.8	0.81
Ozarks East	28%	3.7	0.8	0.66
Ozarks West	25%	3.9	0.7	0.64
Union Breaks	38%	3.7	0.9	0.49
West Prairie	37%	3.4	0.8	0.84
Statewide	36%	3.8	0.9	0.63